



[6450-01-P]

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

[Case No. CAC-038]

Publication of the Petition for Waiver from Samsung Electronics America, Inc. and Granting of the Interim Waiver from the Department of Energy Commercial Package Air Conditioner and Heat Pump Test Procedures

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of petition for waiver, granting of application for interim waiver, and request for comments.

SUMMARY: This notice announces receipt of and publishes a petition for waiver from Samsung Electronics America, Inc. (Samsung). The petition for waiver (hereafter “petition”) requests a waiver from the U.S. Department of Energy (DOE) test procedure applicable to commercial package air-source central air conditioners and heat pumps. The petition is specific to the variable capacity Digital Variable Multi (DVM) (commercial) multi-split heat pump models specified in Samsung’s petition. Through this document, DOE: (1) solicits comments, data, and information with respect to the Samsung petition; and (2) announces the grant of an interim waiver to Samsung from the existing DOE test procedure for the subject commercial multi-split air conditioners and heat pumps.

DATES: DOE will accept comments, data, and information with respect to the Samsung petition until, but no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments, identified by case number “CAC-038,” by any of the following methods:

- Federal eRulemaking Portal: www.regulations.gov. Follow the instructions for submitting comments.
- E-mail: AS_Waiver_Requests@ee.doe.gov. Include the case number [CAC-038] in the subject line of the message.
- Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J/1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-2945. Please submit one signed original paper copy.
- Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L’Enfant Plaza SW., Suite 600, Washington, DC 20024. Please submit one signed original paper copy.

Docket: For access to the docket to review the background documents relevant to this matter, you may visit the U.S. Department of Energy, 950 L’Enfant Plaza SW., Washington, DC, 20024; (202) 586-2945, between 9:00 a.m. and 4:00 p.m., Monday through Friday, except on Federal holidays. Available documents include the following items: (1) this notice; (2) public comments received; (3) the petition for waiver and application for interim waiver; and (4) prior DOE

rulemakings and waivers regarding similar central air conditioning and heat pump equipment.
Please call Ms. Brenda Edwards at the above telephone number for additional information.

FOR FURTHER INFORMATION CONTACT: Dr. Michael G. Raymond, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-2J, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-9611. E-mail: AS_Waiver_Requests@ee.doe.gov.

Ms. Elizabeth Kohl, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-71, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0103. Telephone: (202) 586-7796. E-mail: <mailto:Elizabeth.Kohl@hq.doe.gov>.

SUPPLEMENTARY INFORMATION:

I. Background and Authority

Title III of the Energy Policy and Conservation Act (EPCA) sets forth a variety of provisions concerning energy efficiency, including Part B of Title III, which establishes the “Energy Conservation Program for Consumer Products Other Than Automobiles.” (42 U.S.C. 6291-6309) Part C of Title III provides for a similar energy efficiency program titled “Certain Industrial Equipment,” which includes commercial air conditioning equipment, package boilers, water heaters, and other types of commercial equipment.¹ (42 U.S.C. 6311-6317)

¹ For editorial reasons, upon codification in the U.S. Code, Parts B and C were re-designated Parts A and A-1, respectively.

Today's notice involves commercial equipment under Part C. Part C specifically includes definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers (42 U.S.C. 6316). With respect to test procedures, Part C authorizes the Secretary of Energy (the Secretary) to prescribe test procedures that are reasonably designed to produce results that measure energy efficiency, energy use, and estimated annual operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6314(a)(2))

For commercial package air-conditioning and heating equipment, EPCA provides that “the test procedures shall be those generally accepted industry testing procedures or rating procedures developed or recognized by the Air-Conditioning and Refrigeration Institute [ARI] or by the American Society of Heating, Refrigerating and Air-Conditioning Engineers [ASHRAE], as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992.” (42 U.S.C. 6314(a)(4)(A)) Under 42 U.S.C. 6314(a)(4)(B), if the industry test procedure for commercial package air-conditioning and heating equipment is amended, EPCA directs the Secretary to amend the corresponding DOE test procedure unless the Secretary determines, by rule and based on clear and convincing evidence, that such a modified test procedure does not meet the statutory criteria set forth in 42 U.S.C. 6314(a)(2) and (3).

On December 8, 2006, DOE published a final rule adopting test procedures for commercial package air-conditioning and heating equipment, effective January 8, 2007. 71 FR 71340. Table 1 to Title 10 of the Code of Federal Regulations (10 CFR) 431.96 directs manufacturers of commercial package air conditioning and heating equipment to use the appropriate procedure when measuring energy efficiency of those products. For commercial

package air-source equipment with capacities between 65,000 and 760,000 Btu/h, ARI Standard 340/360-2004 is the applicable test procedure.

DOE's regulations for covered products permit a person to seek a waiver from the test procedure requirements for covered commercial equipment if at least one of the following conditions is met: (1) the petitioner's basic model contains one or more design characteristics that prevent testing according to the prescribed test procedures; or (2) the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption as to provide materially inaccurate comparative data. 10 CFR 431.401(a)(1). Petitioners must include in their petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. 10 CFR 431.401(b)(1)(iii). The Assistant Secretary for Energy Efficiency and Renewable Energy (Assistant Secretary) may grant a waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 431.401(f)(4). Waivers remain in effect pursuant to the provisions of 10 CFR 431.401(g).

The waiver process also permits parties submitting a petition for waiver to file an application for interim waiver of the applicable test procedure requirements. 10 CFR 431.401(a)(2). The Assistant Secretary will grant an interim waiver request if it is determined that the applicant will experience economic hardship if the application for interim waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver. 10 CFR 431.401(e)(3). An interim

waiver remains in effect for 180 days or until DOE issues its determination on the petition for waiver, whichever occurs first. It may be extended by DOE for an additional 180 days. 10 CFR 431.401(e)(4).

II. Petition for Waiver

On October 17, 2011, Samsung filed a petition for waiver from the test procedures at 10 CFR 431.96 applicable to the specified basic models of its commercial package air-source and water-source central air conditioners and heat pumps, as well as an application for interim waiver. Samsung's petition requested a waiver for the Samsung DVM multi-split heat pumps with capacities ranging from 72,000 Btu/h to 120,000 Btu/h. The applicable test procedure for these heat pumps is ARI 340/360-2004. Manufacturers are directed to use these test procedures pursuant to Table 1 of 10 CFR 431.96.

Samsung seeks a waiver from the applicable test procedures under 10 CFR 431.96 on the grounds that its DVM multi-split heat pumps contain design characteristics that prevent testing according to the current DOE test procedures. Specifically, Samsung asserts that the two primary factors that prevent testing of its DVM multi-split variable speed products are the same factors stated in the waivers that DOE granted to Mitsubishi Electric & Electronics America USA, Inc. (Mitsubishi) and other manufacturers for similar lines of commercial multi-split air-conditioning systems:

- Testing laboratories cannot test products with so many indoor units; and
- There are too many possible combinations of indoor and outdoor units to test.

See, e.g., 72 FR 17528 (April 9, 2007) (Mitsubishi); 76 FR 19069 (April 6, 2011)

(Daikin); 76 FR 19078 (April 6, 2011) (Mitsubishi); 76 FR 31951 (June 2, 2011) (Carrier); 76 FR 50204 (August 12, 2011) (Fujitsu General Limited); 76 FR 65710 (October 24, 2011) (Mitsubishi).

The DVM systems have operational characteristics similar to the commercial multi-split products manufactured by other manufacturers. As indicated above, DOE has already granted waivers for these products. The DVM system consists of multiple indoor units connected to an air-cooled outdoor unit. These multi-splits are used in zoned systems where an outdoor or water-source unit can be connected with up to 10 separate indoor units, which need not be the same models. According to Samsung, the various indoor and outdoor models can be connected in a multitude of configurations, with many thousands of possible combinations. Consequently, Samsung requested that DOE grant a waiver from the applicable test procedures for its DVM product designs until a suitable test method can be prescribed.

III. Application for and Grant of Interim Waiver

On October 17, 2011, Samsung also submitted an application for an interim waiver from the test procedures at 10 CFR 431.96 for its DVM equipment. DOE determined that Samsung's application for interim waiver does not provide sufficient market, equipment price, shipments, and other manufacturer impact information to permit DOE to evaluate the economic hardship Samsung might experience absent a favorable determination on its application for an interim waiver. DOE understands, however, that if it did not issue an interim waiver, Samsung's products would not be tested and rated for energy consumption in the same manner as equivalent products for which DOE previously granted waivers. Furthermore, DOE has determined that it

appears likely that Samsung's petition for waiver will be granted and that is desirable for public policy reasons to grant Samsung immediate relief pending a determination on the petition for waiver. DOE believes that it is likely Samsung's petition for waiver for the new DVM multi-split models will be granted because, as noted above, DOE has previously granted a number of waivers for similar product designs. The two principal reasons supporting the grant of the previous waivers also apply to Samsung's DVM products: (1) test laboratories cannot test products with so many indoor units; and (2) it is impractical to test so many combinations of indoor units with each outdoor unit. In addition, DOE believes that similar products should be tested and rated for energy consumption on a comparable basis. For these same reasons, DOE also determined that it is desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver.

Therefore, it is ordered that:

The application for interim waiver filed by Samsung is hereby granted for Samsung's DVM multi-split heat pumps, subject to the specifications and conditions below.

1. Samsung shall not be required to test or rate its DVM commercial multi-split products on the basis of the existing test procedures under 10 CFR 431.96, which incorporates by reference ARI 340/360-2004.
2. Samsung shall be required to test and rate its DVM commercial multi-split products according to the alternate test procedure as set forth in section IV, "Alternate test procedure."

The interim waiver applies to the following basic model groups:

Type	Model	Description	Cooling/Heating [Btu/h]
Outdoor Unit	RVXVHT075FE	Condensing unit heat pump	72,000/81,000
	RVXVHT100FE	Condensing unit heat pump	96,000/108,000
	RVXVHT125FE	Condensing unit heat pump	120,000/135,000
	RD075VRXFA	Condensing unit heat pump	72,000/81,000
	RD100VRXFA	Condensing unit heat pump	96,000/108,000
	RD125VRXFA	Condensing unit heat pump	120,000/135,000
Indoor Unit	AVXCMH032CE	4-Way Ceiling Cassette Heat pump	9,500/10,500
	AVXCMH040CE	4-Way Ceiling Cassette Heat pump	12,000/13,500
	AVXCMH052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXCMH060CE	4-Way Ceiling Cassette Heat pump	20,000/23,000
	AVXC4H052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXC4H072CE	4-Way Ceiling Cassette Heat pump	24,000/27,000
	AVXC4H100CE	4-Way Ceiling Cassette Heat pump	30,000/34,000
	AVXC4H110CE	4-Way Ceiling Cassette Heat pump	36,000/40,000
	AVXC4H145CE	4-Way Ceiling Cassette Heat pump	48,000/54,000
	AVXDSH020CE	Built-in Slim Duct(Low pressure)	6,000/7,000
	AVXDSH032CE	Built-in Slim Duct(Low pressure)	9,500/10,500
	AVXDSH040CE	Built-in Slim Duct(Low pressure)	12,000/13,500
	AVXDSH052CE	Built-in Slim Duct(Low pressure)	18,000/20,000
	AVXDSH072CE	Built-in Slim Duct(Low pressure)	24,000/27,000
	AVXDSH100CE	Built-in Slim Duct(Low pressure)	30,000/34,000
	AVXDSH110CE	Built-in Slim Duct(Low pressure)	36,000/40,000
	AVXDSH145CE	Built-in Slim Duct(Low pressure)	48,000/54,000
	AVXDUH100CE	Built-in Duct(Mid pressure)	30,000/34,000
	AVXDUH110CE	Built-in Duct(Mid pressure)	36,000/40,000
	AVXDUH145CE	Built-in Duct(Mid pressure)	48,000/54,000
	AVXWVH020CE	High Wall Mount Heat Pump	6,000/7,000
	AVXWVH032CE	High Wall Mount Heat Pump	9,500/10,500
	AVXWVH040CE	High Wall Mount Heat Pump	12,000/13,500
	AVXWVH052CE	High Wall Mount Heat Pump	18,000/20,000
	AVXWVH060CE	High Wall Mount Heat Pump	20,000/23,000
	AVXWNH020CE	High Wall Mount Heat Pump	6,000/7,000

AVXWNH032CE	High Wall Mount Heat Pump	9,500/10,500
AVXWNH040CE	High Wall Mount Heat Pump	12,000/13,500
AVXWNH052CE	High Wall Mount Heat Pump	18,000/20,000
AVXWNH060CE	High Wall Mount Heat Pump	20,000/23,000
AVXCSH023CE	1-Way Ceiling Cassette Heat pump	7,500/8,500
AVXCSH032CE	1-Way Ceiling Cassette Heat pump	9,500/10,500
AVXCSH040CE	1-Way Ceiling Cassette Heat pump	12,000/13,500

This interim waiver is issued on the condition that the statements, representations, and documents provided by the petitioner are valid. DOE may revoke or modify this interim waiver at any time if it determines the factual basis underlying the petition for waiver is incorrect or the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics.

DOE makes decisions on waivers and interim waivers for only those models specifically set out in the petition, not future models that may be manufactured by the petitioner. Samsung may submit a petition for waiver and request for grant of interim waiver, as appropriate, for additional models of commercial package air conditioners and heat pumps for which it seeks a waiver from the DOE test procedure. In addition, DOE notes that grant of an interim waiver or waiver does not release a petitioner from the certification requirements set forth at 10 CFR Part 429.

IV. Alternate Test Procedure

In responses to two petitions for waiver from Mitsubishi, DOE specified an alternate test procedure to provide a basis from which Mitsubishi could test and make valid energy efficiency representations for its R410A CITY MULTI products, as well as for its R22 multi-split products.

Alternate test procedures related to the Mitsubishi petitions were published in the Federal Register on April 9, 2007. See 72 FR 17528 and 72 FR 17533. For reasons similar to those published in these prior notices, DOE believes that an alternate test procedure is appropriate in this instance.

DOE understands that existing testing facilities have limited ability to test multiple indoor units simultaneously. This limitation makes it impractical for manufacturers to test the large number of possible combinations of indoor and outdoor units for some variable refrigerant flow zoned systems. We further note that after DOE granted a waiver for Mitsubishi's R22 multi-split products, ARI formed a committee to discuss testing issues and to develop a testing protocol for variable refrigerant flow systems. The committee has developed a test procedure that has been adopted by AHRI – “ANSI/AHRI 1230 - 2010: Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment” and is referenced in ASHRAE 90.1-2010. ANSI/AHRI 1230-2010 is consistent with the alternate test procedure established in the commercial multi-split waivers that DOE has granted to Mitsubishi and several other manufacturers. ANSI/AHRI 1230-2010 uses a definition of “tested combination” that is substantially the same as the definition in the alternate test procedure in those waivers. DOE prescribed ANSI/AHRI 1230-2010 in decision and orders granted to Carrier Corporation (76 FR 31951, June 2, 2011), Fujitsu General Limited (76 FR 50204, August 12, 2011), and Mitsubishi (76 FR 65710, October 24, 2011).

Therefore, as a condition for granting this interim waiver to Samsung, DOE requires the use of ANSI/AHRI-1230-2010 with Addendum 1 as the alternate test procedure. This alternate

test procedure will allow Samsung to test and make energy efficiency representations for its DVM products. As stated above, DOE has applied this alternate test procedure to other waivers for similar residential and commercial central air conditioners and heat pumps manufactured by other manufacturers.

V. Summary and Request for Comments

Through today's notice, DOE announces receipt of the Samsung petition for waiver from the test procedures applicable to the DVM commercial multi-split heat pump products specified in Samsung's petition. For the reasons articulated above, DOE also grants Samsung an interim waiver from those procedures. As part of this notice, DOE is publishing Samsung's petition for waiver in its entirety. The petition contains no confidential information. Furthermore, today's notice includes an alternate test procedure that Samsung is required to follow as a condition of its interim waiver.

DOE is interested in receiving comments on the issues addressed in this notice. Pursuant to 10 CFR 431.401(d), any person submitting written comments must also send a copy of such comments to the petitioner, pursuant to 10 CFR 431.401(d). The contact information for the petitioner is: Michael Moss, Director of Corporate Environmental Affairs, Samsung Electronics America, Inc., 18600 Broadwick Street, Rancho Dominguez, CA 90220. All submissions received must include the agency name and case number for this proceeding. Submit electronic comments in WordPerfect, Microsoft Word, Portable Document Format (PDF), or text (American Standard Code for Information Interchange (ASCII)) file format and avoid the use of special characters or any form of encryption. Wherever possible, include the electronic signature

of the author. DOE does not accept telefacsimiles (faxes).

According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit two copies: one copy of the document including all the information believed to be confidential, and one copy of the document with the information believed to be confidential deleted. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Issued in Washington, DC, on December 20, 2011.

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

October 17, 2011

Dr. Henry Kelly
Energy Efficiency and Renewable Energy
Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585

Re: Samsung Petition for Waiver and Application for Interim Waiver, DVM Air Conditioner and Heat Pumps

Dear Assistant Secretary Kelly:

Samsung Electronics America, on behalf of Samsung Electronics Co. (Samsung), respectfully submits this petition for interim waiver and application for waiver to allow Samsung to fairly evaluate its new line of DVM air conditioners and heat pumps.

Under 10 CFR 431.401(a)(1), any interested person to submit a petition to waive for a particular basic model any requirement for commercial equipments, upon the grounds that either the basic model contains one or more design characteristics which prevent testing of the basic model according to the prescribed test procedures, or the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data.

Samsung originally submitted a petition for waiver and application for interim waiver for its DVM system on October 7, 2003, seeking relief from 10 CFR 430 based on the fact that the multitude of combinations of outdoor and indoor units makes it highly impractical for Samsung to test every single combination. For this reason, DOE granted Samsung the Interim Waiver on February 8, 2005.

On December 8, 2006, the Department of Energy (DOE) published a final rule adopting ARI Standard 210/240-2003 for commercial package air conditioning and heating equipment with capacities <65,000 Btu/h and 340/360-2004 for commercial package air conditioner and heating equipment with capacities $\geq 65,000$ Btu/h and <240,000 Btu/h. However, under these new test procedures, Samsung would still be required to test every single combination of its commercial DVM outdoor and indoor units. Based on DOE's recognition that (1) there is a problem of being physically unable to test most of the

complete systems in a laboratory; (2) there are difficulties associated with the regulatory requirement to test the highest-sales-volume combination; and (3) there is the lack of a method for predicting the performance of untested combinations, DOE granted Samsung the waiver from having to test every single combination of its DVM system in 72 FR 71387, on December 17, 2007.

Since then, Samsung has further improved its DVM system, establishing new models not covered in the waiver published in 72 FR 71387. Even though model numbers changed, the difficulty with testing the multitude of combination of Samsung's DVM models remains; therefore, Samsung is seeking DOE's granting of waiver and interim waiver for the following Samsung DVM models:

Type	Model	Description	Cooling/Heating [Btu/h]
Outdoor Unit	RVXVHT075FE	Condensing unit heat pump	72,000/81,000
	RVXVHT100FE	Condensing unit heat pump	96,000/108,000
	RVXVHT125FE	Condensing unit heat pump	120,000/135,000
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	AVXCMH052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXCMH060CE	4-Way Ceiling Cassette Heat pump	20,000/23,000
	AVXC4H052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXC4H072CE	4-Way Ceiling Cassette Heat pump	24,000/27,000
	AVXC4H100CE	4-Way Ceiling Cassette Heat pump	30,000/34,000
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	AVXDUH100CE	Built-in Duct(Mid pressure)	30,000/34,000
	AVXDUH110CE	Built-in Duct(Mid pressure)	36,000/40,000

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Each outdoor unit may be combined with up to ten different indoor units and each indoor unit may be independently turned on, off, standby, etc. depending on user-desired settings. With up to 33 different indoor units for the consumer to choose from and combined, and as evident in the chart above, there are thousands of different combinations, creating an extremely burdensome task for Samsung or any testing laboratory to evaluate all possible combination. Being responsible to test every conceivable combination would place an unfair burden upon Samsung, while offering no added value for purpose of energy testing.

Samsung's new DVM system is very similar to Samsung's old DVM system, which DOE had granted a waiver for in 72 FR 71387. Until a final test procedure addressing commercial central air conditioners and heat pumps, similar to Samsung's DVM systems, is prescribed, Samsung believes that the interim waiver as granted by the Department in 70 FR 9629 and waiver as granted by the Department in 72 FR 71387, be granted for Samsung's new DVM system in order for Samsung to feasibly evaluate its new line of DVM central air conditioners and heat pumps.

Sincerely,

Michael Moss

[FR Doc. 2011-33172 Filed 12/23/2011 at 8:45 am; Publication Date: 12/27/2011]